Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

Listing of Claims:

Claim 1 (original): A method for convection enhanced delivery of a therapeutic agent to a target tissue in a subject's body, comprising:

providing a solution comprising the therapeutic agent and a tracer;

delivering the solution to the target tissue by convective interstitial infusion; and

monitoring a distribution of the solution during delivery by imaging the tracer in the solution.

Claim 2 (original): The method of claim 1, further comprising ceasing delivery of the solution to the target tissue when the solution is distributed in a predetermined volume as indicated by the image of the tracer.

Claim 3 (original): The method of claim 2, wherein delivery of the solution is delivered substantially only to the target tissue.

Claim 4 (original): The method of claim 1, wherein monitoring the distribution of the solution and imaging the tracer comprises performing MRI or CT.

Claim 5 (original): The method of claim 4, wherein the tracer comprises a metal chelate of a paramagnetic metal ion.

Claim 6 (original): The method of claim 5, wherein the tracer comprises the metal chelate conjugated to the therapeutic agent.

Claim 7 (original): The method of claim 6, wherein the tracer comprises the metal chelate conjugated to a carrier molecule.

Claim 8 (original): The method of claim 7, wherein the carrier molecule comprises a protein.

Claim 9 (original): The method of claim 8, wherein the protein comprises a serum albumin.

Claim 10 (original): The method of claim 9, wherein the serum albumin is conjugated to one or more 1B4M chelates of gadolinium (III) ion.

Claim 11 (original): The method of claim 7, wherein the carrier molecule comprises a dendrimer.

Claim 12 (original): The method of claim 11, wherein the dendrimer is selected from the group consisting of polyalkyelenimine dendrimers and polyamidoamine dendrimers.

Claim 13 (original): The method of claim 6, wherein the tracer is chosen to have a mobility in the solid tissue that is substantially similar to the therapeutic agent.

Claim 14 (original): The method of claim 4, wherein the tracer comprises an iodinated CT contrast agent.

Claim 15 (original): The method of claim 14, wherein the tracer comprises iopanoic acid or iopamidol.

Claim 16 (original): The method of claim 1, wherein the tracer comprises an X-ray contrast moiety conjugated to the therapeutic agent.

Claim 17 (original): The method of claim 1, wherein the tracer comprises an X-ray contrast agent moiety conjugated to a carrier molecule.

Claim 18 (original): The method of claim 17, wherein the carrier molecule comprises a protein.

Claim 19 (original): The method of claim 17, wherein the carrier molecule comprises a dendrimer.

Claim 20 (original): The method of claim 2, further comprising calculating a correlation between a volume of distribution obtained from the image of the tracer and a volume of distribution for the therapeutic agent, and using the image of the tracer and the correlation to determine whether the therapeutic agent has filled the predetermined volume.

Claim 21 (previously presented): The method of claim 1, further comprising detecting undesired flow of the solution and altering the flow if undesired flow is detected.

Claim 22 (previously presented): The method of claim 21, wherein the undesired flow comprises backflow along a cannula used to deliver the solution, and further comprising repositioning the cannula or reducing a flow rate used to deliver the solution if backflow is detected.

Claim 23 (previously presented): The method of claim 1, wherein delivering the solution comprises infusing the target tissue with the solution at a rate between 0.1 μL/min and 15 μL/min.

Claim 24 (previously presented): The method of claim 1, wherein monitoring further comprises measuring a signal intensity of the tracer in the target tissue and using the signal intensity of the tracer to calculate a concentration of the therapeutic agent in the target tissue.

Claim 25 (previously presented): The method of claim 1, wherein the target tissue is located in the brain.

Claim 26 (previously presented): A method for convection enhanced delivery of a therapeutic agent to substantially only a target tissue, comprising:

delivering a solution to the target tissue by convective interstitial infusion, the solution comprising the therapeutic agent and a tracer;

monitoring a distribution of the tracer by MRI or CT as it moves through the target tissue; and

ceasing delivery of the solution to the target tissue when the distribution of the tracer corresponds to substantially only the target tissue.

Claim 27 (previously presented): The method of claim 26, wherein the tracer has a mobility in the target tissue that is substantially similar to the mobility of the therapeutic agent.

Claim 28 (currently amended): The method of claim 26, wherein the tracer comprises ~~the therapeutic agent conjugated to~~ an imaging moiety, and the imaging moiety is conjugated to the therapeutic agent.

Claim 29 (previously presented): The method of claim 26, wherein monitoring further comprises calculating a concentration of the tracer from an image of the tracer and correlating the concentration of the tracer to a concentration of the therapeutic agent delivered to the target tissue.

Claims 30-34 (canceled).